

Appl. No.: 10/541,085
Reply to Office Action of: 07/10/2008

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Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) A keypad comprising:

a set of switches;

a set of mechanical key elements arranged in a plane wherein each mechanical key element has a fixed position in the plane relative to the fixed positions of each other mechanical key element wherein each mechanical key element is capable of being moved by a user so as to operate a respective switch and wherein each mechanical key element comprises a separate outer pad for actuation by a user; and

a continuous flexible display film, extending beneath the set of mechanical key elements and over the set of switches, and configured to position the set of mechanical key elements for user actuation and to present a plurality of controllable pixels under each of the mechanical key elements and arranged to flex when a user moves any one of the set of mechanical key elements to operate a respective switch and ~~arranged so as a~~ display controller operable to control the continuous flexible display film to have a first display output in which a first set of indicia are displayed in association with the set of mechanical key elements and a second display output in which a second set of indicia, different to the first set of indicia, are displayed in association with the set of mechanical key

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~~elements, wherein the mode of the display device can be varied under the control of the display controller.~~

2. (Canceled)

3. (Currently amended) A keypad as claimed in claim 1, wherein the key elements are rigid elements interconnected by the continuous flexible display film.

4. (Canceled)

5. (Previously presented) A keypad as claimed in claim 1, wherein each outer pad is transparent.

6. (Currently amended) A keypad as claimed in claim 1, wherein the continuous flexible display film device is a configured to emit light-emitting display device.

7. (Previously presented) An electronic device including a keypad as claimed in claim 1 and the said display controller.

8. (Original) An electronic device as claimed in claim 7, wherein the display controller is arranged to, in a first mode, cause the display device to display a first set of indicia from each of the key elements and, in a second mode, display a second set of indicia from each of the key elements.

9. (Currently amended) An electronic device as claimed in claim 8, wherein the first mode is a numeric input mode and the first set of indicia are numeric indicia, and the second mode is an alphabetic input mode and the ~~first~~ second set of indicia are alphabetic indicia.

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10. (Previously presented) An electronic device as claimed in claim 9, wherein in the first and second modes the indicia displayed from each key element is indicative of the character that would be input on pressing the key element.

11. (Previously presented) An electronic device as claimed in claim 10, wherein in the second mode the character that would be input on pressing the key element is dependent on the number of times the key element has been pressed within a predetermined time period of each previous such press without the pressing of another of the key elements.

12. (Canceled)

13. (Canceled)

14. (Previously presented) A keypad as claimed in claim 1, wherein each switch is positioned directly underneath a nib of its respective key element.

15. (Previously presented) An electronic device as claimed in claim 8 wherein the key elements are arranged to protrude through individual holes in a housing of the electronic device.

16. (Currently amended) A keypad comprising:

a display device comprising a first side and an opposite second side;

a plurality of mechanical key elements connected to the first side of the display device, wherein each of the plurality of mechanical key elements comprises an outer pad extending

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from the first side of the display device, and wherein the outer pad is configured to be operated by a user of the keypad; and

a plurality of switches opposite the second side of the of the display device, wherein each of the plurality of switches corresponds to one of the plurality of mechanical key elements;

wherein the display device comprises a light emissive layer extending underneath the plurality of mechanical key elements and over the plurality of switches;

wherein a display pattern of the display device can be varied under the control of a display controller, and arranged so as to be capable of propagating two or more patterns of light from at least some of the key elements;

whereby indicia may be displayed from the key elements and the displayed indicia varied under the control of the display controller.

17. (Previously presented) A keypad as claimed in claim 16 further comprising a plurality of nibs connected to the second side of the display device, wherein each of the plurality of nibs corresponds to one of the plurality of mechanical key elements.

18. (Previously presented) A keypad as claimed in claim 17 further comprising a plurality of resilient members between the plurality of nibs and the plurality of switches.

19. (Currently amended) A keypad as claimed in claim 1, wherein the continuous flexible display device film is a

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~~transreflective~~ transflective continuous flexible display device film.

20. (Currently amended) A keypad as claimed in claim 1, wherein the continuous flexible display device film is a transmissive continuous flexible display device film.

21. (New) A method comprising;

providing a set of switches;

arranging a set of mechanical key elements in a plane, wherein each mechanical key element is configured to be operable by a user;

extending a continuous flexible display film beneath the set of mechanical key elements and over the set of switches;

providing a plurality of controllable pixels under each of the mechanical key elements; and

providing a display controller configured to control the continuous flexible display film to have a first display output in which a first set of indicia are displayed in association with the set of mechanical key elements and a second display output in which a second set of indicia, different to the first set of indicia, are displayed in association with the set of mechanical key elements.

22. (New) A method comprising:

controlling a plurality of pixels under a set of mechanical key elements, wherein the set of mechanical key elements is proximate a display device;

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displaying a first set of indicia in association with the set of mechanical key elements;

displaying a second set of indicia, different to the first set of indicia, in association with the set of mechanical key elements; and

varying a display pattern of the display device based, at least partially, on the displayed first set of indicia and/or the displayed second set of indicia.

23. (New) A computer readable medium encoded with computer executable instructions for performing operations to control light-emitting zones of a display device, the operations comprising:

actuating a plurality of pixels disposed under a set of mechanical key elements;

propagating two or more patterns of light from the key elements, wherein the key elements are connected to a first side of the display device;

displaying a first set of indicia in association with the set of mechanical key elements in response to a selected first mode; and

displaying a second different set of indicia in association with the set of mechanical key elements in response to a selected second mode.